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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Linda N. Winslow

Serial No.: 10/087,028

Filed: March 1, 2002

For: DIIMINE COMPLEXES FOR OLEFIN POLYMERIZATION

Attorney Docket No.: LYON 0127 PUS

Group Art Unit: 1713

Examiner: Robert D. Harlan

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
U.S. Patent & Trademark Office  
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Alexandria, VA 22313-1450

Sir:

In the Examiner's Answer of February 23, 2005, the Examiner stated that the phrase

$R^{26}$  and  $R^{27}$  are each independently hydrocarbyl or substituted hydrocarbyl, provided that the carbon atom bonded to the imino nitrogen atom has at least two carbon bound to it.

does not imply that *Hauptman* requires the carbon at the imino carbon to be branched. The Examiner's rationale is set forth at the bottom of page 4 of the Examiner's answer:

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

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The Examiner argues a teaching that the carbon atom bonded to the imino nitrogen has at least two carbons bound to it does not necessarily mean that the secondary carbon atom is branched. Understandably, an isopropyl or isobutyl substituent, which contains a secondary carbon atom, is undoubtedly branched. However, a phenyl group (as shown in Hauptman, page 88, formula 48) or a cyclohexyl group with six identical secondary carbon atoms is not branched because the bond connectivity of the carbon atoms are all linked in a cyclic fashion destroying any branching. If a phenyl ring contained a hydrocarbon substituent outside of the cyclic bond connectivity, then the argument that the group is branched may be plausible.

Thus, reading the claims in the broadest light possible, it is clear the Hauptman anticipates the claims 12 - 20 because neither  $R^{26}$  nor  $R^{27}$  is branched.

However, this statement by the Examiner is without any evidentiary support. A rejection cannot be predicated on the Examiner's personal beliefs or mere conclusory statements, but must be based on evidentiary facts. The Examiner has not provided an Affidavit under 37 C.F.R. § 1.104(d)(2), nor has the Examiner cited any textbook or treatise in support of his position, despite the Examiner's position in this regard having been challenged on page 2 of Appellant's Amendment Under 37 C.F.R. § 1.116 filed September 16, 2004. Without such, the rejection cannot be maintained.

Applicant has submitted the Declaration of Dr. James W. Proscia in support of the well-recognized contention that the carbon of any aryl group (or a cycloaliphatic group, for that matter), attached to an imino group, is indeed branched at the imino carbon. A copy of the Proscia Declaration is attached hereto. Dr. Proscia is a skilled organic chemist who has taught chemistry at the university level.

The position of the Examiner in this regard is, to Applicant, inconceivable. The mere existence of a grouping of atoms in a cyclic structure does not alter whether a structure

is branched. The ring structure of a 6 carbon alicyclic structure such as the cyclohexyl group may alter the chemistry of individual carbon atoms due to increased steric hindrance of certain hydrogens due to the conformers structures, *i.e.*, boat or chair form, but it does not alter the fact that a cyclohexyl group, like an aryl group, is branched at the attaching carbon atom. For example, a cyclohexyl carbonium ion is a secondary carbonium ion just as is a 2-butyl carbonium ion. Both ions are established on carbon atoms which are bonded to two other carbons, *i.e.* branched. See, *e.g.* R.D. Wieting et al., "Relative Stabilities of Carbonium Ions in the Gas Phase and Solution. A Comparison of Cyclic and Acyclic Alkylcarbonium Ions, Acyl Cations, and Cyclic Halonium Ions, J. AM CHEM. SOC. 96 7552-7554 (1974), from the title of which cyclic aliphatic hydrocarbon and acyclic aliphatic hydrocarbon carbonium ions are both designated as "alkyl carbonium ions," *i.e.* there is no distinction merely because the structure is cyclic, as the Examiner suggests.

With regard to the citation of *Hauptman* reproduced earlier, it is clear that both R<sup>26</sup> and R<sup>27</sup> contain an imino-bonded carbon which is itself bonded to two other carbons, *i.e.* is branched, both in the clear and customary meaning of the term as well as the meaning one skilled in organic chemistry would ascribe to it. There is no evidence to the contrary.

For these reasons, in addition to those presented in the Brief on Appeal, the rejections of the claims should be reversed, and reversal is solicited.

Respectfully submitted,

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Date: March 22, 2005

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Attachment: Appendix of Evidence  
(Dr. Proscia Declaration)